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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,309	01/31/2002	Jeff D. Dillabough	VER-01	2551

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26005 RIDGE ROAD
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EXAMINER

PHAN, RAYMOND NGAN

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No. 10/062,309	Applicant(s) DILLABOUGH ET AL.	
	Examiner Raymond Phan	Art Unit 2111	

-- The MAILING DATE of this c mmunicati n appears n the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 04 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9,12-21,23-29 and 31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9,12-21,23-29 and 31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Part III DETAILED ACTION

Notice to Applicant(s)

1. This action is responsive to the following communications: amendment filed on August 4, 2004.
2. This application has been examined. Claims 1-9, 12-21, 23-29, 31 are pending.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
4. The following is a quotation of the first paragraph of 35 U.S.C. § 112:
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to teach or suggest in-band communication channel for carrying only control and status signal through said DROP bus from the physical layer device to said Link Layer device and through said ADD bus from the Link Layer device to the physical layer device (claims 1, 12, 23) and DROP bus carries half of the full duplex in-band communications channel and the ADD Bus carries another half of the full duplex in-band communication channel (claims 21, 31)

The disclosure is non-enabling for claims 1, 12, 21, 23 and 31 because the limitations recited in the claims 1, 12, 21, 23 and 31 were merely hinted as possible

modifications to the claimed invention and no circuit diagrams or suggestion were provided to make modifications as hinted. Therefore, undue experimentation is required and the disclosure does not enable a person skilled in the art to make and use the claimed invention.

Claim Rejections - 35 USC § 112

5. Claims 1, 12, 21, 23 and 31 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-9, 12-20, 23, 25-29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants Admitted Prior Arts (AAPA hereinafter) in view of Cam et al. (US Pub No. 2002/0126704).

In regard to claims 1, 12, 23, AAPA disclose a serial scaleable bandwidth interconnect bus for interconnection of physical layer and link layer devices, comprising: (a) an ADD Bus operative to receive signals from said link layer devices and direct them to said physical layer devices; and (b) a DROP Bus operative to receive signals from said physical layer devices and direct them to said link layer devices (see figure 1, pages 6-7); wherein said serial scaleable bandwidth interconnect bus is capable of supporting a plurality of links (see figure 1, pages 6-7); and wherein, for one or more of said links, ADD Bus timing control information is conveyed from said physical layer to said link layer of said DROP

Bus and independently of other ones of said links (see figure 9-11, pages 47). But AAPA do not specifically disclose the in-band communication channel for carrying only control and status signals through the DROP bus from the physical layer device to the link layer device and through the ADD bus from the link layer device to the physical layer device. However Cam et al. disclose the in-band communication channel for carrying only control and status signals through the from the physical layer device to the link layer device and through the ADD bus from the link layer device to the physical layer device (see paras 0004-0008). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Cam et al. within the system of AAPA because it would provide such an interface having a simplified operation with minimal overhead, and better signal integrity.

In regard to claims 3, 14, 25, AAPA disclose wherein said bus interface device supports fractional links (see figure 5, page 40).

In regard to claims 4, 15, 26, AAPA disclose wherein a bandwidth of each of said fractional links is an arbitrary rate up to a maximum of approximately 45 MB/s (see figure 4-5, page 40).

In regard to claims 5, 16, 27, AAPA disclose wherein said bus interface device supports T1s, E1s, TVT1.5s, TVT2s, DS3s, E3s or fractional links (see figure 1, pages 6-7).

In regard to claims 6, 17, 28, AAPA disclose wherein said bus interface device supports 336 T1s, 252 E1s, 336 TVT1.5s, 252 TVT2s, 12 DS3s, 12E3s or 12 fractional links (see figure 4-5, page 40).

In regard to claims 7, 18, even though the teaching of AAPA or Sturm et al. specifically disclose wherein said bus interface device is scaleable by increasing a

serial interconnect rate in multiples of four, however one skilled in the art would have understood that they can choose to have the serial interconnect rate in multiple order to expand the system interconnect.

In regard to claims 8, 19, 29, AAPA disclose wherein said bus interface device interconnects asynchronous and synchronous physical and link layer devices (see figures 10-11, page 47).

In regard to claims 9 and 20, Cam et al. teach wherein said bus interface device is a serial differential interface (i.e. LVDS interface) (see para 0004). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Cam et al. within the system of AAPA because it would provide such an interface having a simplified operation with minimal overhead, and better signal integrity.

In regard to claims 10-11, 21-22, 30-31, Sturm et al. disclose wherein said serial link comprises an in-band half-duplex channel for conveying control information between said physical layer and said link layer (see col. 4, lines 20-33). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Sturm et al. within the system of AAPA because it would provide a scheme that can be used to transmit control signal from one parallel bus to a second parallel bus over a serial link.

8. Claims 2, 13, 22, 24, 31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants Admitted Prior Arts (AAPA hereinafter) in view of Cam et al. Further in view of Sturm et al (US No. 6,687,779).

In regard to claims 2, 13, 24, AAPA and Cam et al. disclose the claimed subject matter as discussed above rejections except the teaching of wherein the timing control information is 8B/10B encoded. However Sturm et al. disclose wherein the timing control information is 8B/10B encoded (see col. 5, lines 7-19). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Sturm et al. within the system of AAPA and Cam et al. because it would provide a scheme that can be used to transmit control signal from one parallel bus to a second parallel bus over a serial link.

In regard to claims 22, 31, Sturm et al. disclose wherein said serial link comprises an in-band half-duplex channel for conveying control information between said physical layer and said link layer (see col. 4, lines 20-33). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Sturm et al. within the system of AAPA and Cam et al. because it would provide a scheme that can be used to transmit control signal from one parallel bus to a second parallel bus over a serial link.

Response to Arguments

9. In view of amendments and remarks filed on August 4, 2004, claims 1-9, 12-21, 23-29, 31 have been fully considered but they are not deemed to be persuasive.

Non-enablement of claims 22 and 31

Applicant(s) indicated that ...claim 21 has been revised which supported on page 63, lines 11-13... (page 9). The Examiner does not agree. On page 63, lines 11-13 of the specification does not support the ADD serial interconnect carrying half of the full duplex and the DROP serial interconnect carrying the other half of

the full duplex channel. On page 63, lines 9-12, it is **not** clear that communications through the DROP bus interface and the ADD bus interface utilize the same in-band communication channel with *the DROP bus interface carrying half of the full duplex and the ADD bus interface carrying the other half of the full duplex*.

Applicant(s) argue that ...Fractional rates over scaleable band interconnects is novel... (page 11). The Examiner does not agree. On figure 5 of the specification, it is clearly said that the scaleable band interconnects (i.e. SBI) support fractional links (see figure 5, page 40).

Conclusion

10. Claims 1-9, 12-21, 23-29, 31 are rejected.

11. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure.

Fourcand et al. (US No. 6,778,491) disclose a method and system for providing redundancy for signaling link modules in a telecommunication system.

Loewen et al. (US No. 6,798,744) disclose a method and apparatus for interconnection of flow-controlled communication.

Bastiani et al. (US No. 6,675,243) disclose a method and apparatus for implementing device side advanced serial protocol.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (571) 272-3630. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Paul Myers can be reached on (571) 272-3639 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 central telephone number is (571)272-2100.



PAUL R. MYERS
PRIMARY EXAMINER



Raymond Phan
1/2/05